

Listing of Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently amended) A method of performing traffic volume accounting in a mobile telecommunication system, the method comprising the steps of:

reading a service marking included in a first packet received by a first node of the telecommunication system; and

performing a first increment to a counter in a first traffic volume container of a call detail record, the first increment indicative of a volume of data in the first packet, the first traffic volume container dedicated to a service associated with the service marking; and applying at least one billing rate, based on the service marking, to the counter in the first traffic volume container.

2. (Original) The method according to claim 1, further comprising opening the first traffic volume container upon determining that no open traffic volume containers in the call detail record are associated with the service associated with the service marking.

3. (Original) The method according to claim 1, wherein reading a service marking included in a first packet received by a first node further comprises reading a differentiated service codepoint in the first packet by the first node.

4. (Original) The method according to claim 3, wherein reading the differentiated service code point in the first packet further comprises reading the differentiated service codepoint in a transport layer header encapsulated in the first packet.

5. (Original) The method according to claim 1, further comprising writing the service marking by the first node of the network into the first packet prior to reading the service marking.

6. (Original) The method according to claim 1, further comprising writing the service marking by a second node of the network into the first packet prior to reading the service marking by the first node.

7. (Original) The method according to claim 1, further comprising:
receiving a second packet by the first node;
reading a service marking included in the second packet received by the first node;
determining that the service marking included in the second packet corresponds with the service marking read from the first packet; and
performing a second increment to the counter in the first traffic volume container, the second increment indicative of the volume of data in the second packet.

8. (Original) The method according to claim 1, further comprising:
reading at least a portion of an embedded tag in the first packet; and
authenticating an originator of the first packet based on contents of the embedded tag, the first traffic volume container dedicated to a context established between a mobile device and the originator.

9. (Original) The method according to claim 1, wherein authenticating an originator of the first packet is performed by public key infrastructure.

10. (Original) The method according to claim 9, wherein authenticating the originator of the first packet by public key infrastructure further comprises:

decrypting, by the first node, an encrypted hash generated by the originator from a uniform resource locator of a source file and a private key assigned to the originator uniform resource locator, the first packet comprising at least a portion of the source file;

calculating, by the first node, a second hash from the uniform resource locator and a public key assigned to the originator;

comparing the decrypted hash and the calculated hash; and

determining the decrypted hash and the calculated hash are identical.

11. (Currently amended) A mobile telecommunications network operable to provide data services to a mobile device serviced thereby, the mobile telecommunications network comprising:

a first service node including an interface to a data network;

a base station subsystem operable to transmit data to the first service node and receive data from the first service node; and

at least one base transceiver station operable to provide radio frequency links to the mobile device, the first service node operable to receive a first packet and read a first service marking included in the first packet, the first service node operable to perform a first increment to a counter in a first traffic volume container of a call detail record maintained in the first service node, the first increment indicative of a volume of data in the first packet, the first traffic volume container dedicated to a service associated with the first service marking, the first service node operable to provide at least one billing rate to the counter in the first traffic volume container, the first billing rate associated with the first service marking.

12. (Original) The mobile telecommunications network according to claim 11, wherein the first service node is operable to receive a second packet and read a second service marking included in the second packet, the first service node operable to determine the second service marking is different than the first service marking, the first service node operable to perform a second increment to a second traffic volume container of the call detail record, the second traffic volume container dedicated to a second service associated with the second service marking.

13. The mobile telecommunications network according to claim 11, wherein the first service node is operable to open the first traffic volume container upon determining no open traffic volume containers dedicated to a service associated with the first service marking exist in the call detail record.

14. (Original) The mobile telecommunication network according to claim 11, further comprising at least one service node intermediate the first service node and the base station subsystem.

15. (Original) The mobile telecommunication network according to claim 11, further comprising a third node intermediate the data network and the first service node.

16. (Original) The mobile telecommunication network according to claim 11, wherein the first node is operable to read at least a portion of an embedded tag in the first packet, the first node further operable to authenticate an originator of the first packet based on contents of the embedded tag, the first traffic volume container dedicated to a context established between the mobile device and the originator.

17. (Original) The mobile telecommunication network according to claim 16, wherein the first node authenticates the originator by a public key infrastructure procedure.

18. (Original) The mobile telecommunication network according to claim 17, wherein the embedded tag includes an encrypted hash generated by the originator from a uniform resource locator that addresses a file and a private key assigned to the originator, the first packet comprising at least a portion of the file, the first node operable to read at least a portion of the embedded tag from the first packet and decrypt the hash from a public key assigned to the originator, the first node further operable to calculate a hash from the uniform resource locator and the public key assigned to the originator, authentication of the originator made upon determination that the decrypted hash and the calculated hash are identical.

19. (Original) A node of a network for performing billing procedures on call detail records, the node comprising:
a processing unit;

a memory unit operable to store a billing algorithm executable by the processing unit; and

an interface to a network medium operable to receive a call detail record thereon, the billing algorithm operable to generate a tariff dependent on contents of a traffic volume container included in the call detail record, the traffic volume container having an identifier of an originator of network traffic associated therewith and maintained in the call detail record, the tariff further dependent on the identifier.

20. (Original) The node according to claim 19, wherein the identifier is a uniform resource locator of the originator.

21. (Original) The node according to claim 19, wherein the tariff is levied against the originator.

22. (Original) The node according to claim 19, wherein the tariff is levied against a terminating device within the network.

23. (Original) The node according to claim 22, wherein the terminating device is a mobile terminal.

24. (Original) The node according to claim 19, wherein the call detail record include other traffic volume containers, the tariff dependent on the identifier being independent of the other traffic volume containers.

25. (Original) A method of levying a tariff for data delivered from an originator to a terminal device in a telecommunication network, comprising:

reading an identifier in a packet;

determining a correspondence with the identifier and the originator of the data; and

levying the tariff against the originator.

26. (Original) The method according to claim 25, wherein reading an identifier further comprises reading the identifier embedded within the packet.

27. (Original) The method according to claim 25, wherein reading an identifier further comprises reading an embedded tag in the packet, the tag including the identifier.

28. (Original) The method according to claim 27, wherein reading an embedded tag further comprises reading the embedded tag including a uniform resource locator associated with the originator.

29. (Original) The method according to claim 25, wherein determining a correspondence further comprises indexing a record of a database with the identifier, the correspondence made upon matching the identifier with an identifier in the record.

30. (Original) The method according to claim 25, further comprising accumulating a traffic volume count in a call detail record, the traffic volume count indicative of the data volume of the packet.

31. (Original) The method according to claim 30, wherein accumulating a traffic volume count further comprises:
opening a traffic volume container in a node of the network; and
incrementing a counter in the traffic volume container.

32. (Original) The method according to claim 30, wherein accumulating a traffic volume count further comprises incrementing a counter in an open traffic volume container in a node of the network.

33. (Original) The method according to claim 30, wherein accumulating a traffic volume count further comprises accumulating the traffic volume count dedicated to the data transmitted from the originator to the terminal device.

34. (Original) The method according to claim 33, wherein accumulating a traffic volume count further comprises accumulating the traffic volume count in the call detail record including a plurality of traffic volume counters, the traffic volume count maintained in a first traffic volume container of the plurality of traffic volume containers, the first traffic volume container dedicated to accumulating a traffic volume count of the data delivered to the terminal device from the originator.

35. (Original) The method according to claim 25, further comprising:
accumulating, in a call detail record, a first traffic volume count of the data delivered to the terminal device from the originator, the call detail record including other traffic volume counts;
associating the identifier with the traffic volume count;
transmitting the call detail record to an accounting node; and
parsing, by the accounting node, the traffic volume count from the call detail record, the tariff levied independent of the other traffic volume counts within the call detail record.